

## Project Info



13 / 06 / 18



CC8™ Bulk Rolls



375m<sup>2</sup>



Transverse and  
Longitudinal layers



New Print Park, Cornubia,  
Durban, South Africa



Novarc (Pty) Ltd



CC8™ was used  
primarily to provide  
erosion protection  
as well as short term  
containment



Completed CC installation

On 13th June 2018, Novarc (Pty) Ltd began works on an attenuation pond at New Print Park, Cornubia in Durban, South Africa.

The attenuation pond is a temporary stormwater storage facility which has the capacity to allow runoff from the New Print Park property to flow into it at a faster rate than it is discharged. This reduces the effects of flooding which are common in built up and developed areas.

On this particular pond, the inlet pipe measures 600mm in diameter while the outflow pipe measures 300mm in diameter. As a result, the inflow rates are approximately 4 times higher than outflow rates and the pond stores the difference between the two pipes in the short term.

Due to limited access on site, along with the need to prevent damage to the earthworks preparation should a rainfall event occur, a rapidly installed solution was required for lining of the attenuation pond.

As a result, CC was specified for the project, with CC8™ bulk rolls delivered to site via hiab crane. The bulk rolls were deployed from a spreader beam which was positioned on a standing scaffold frame adjacent to the installation site.

\*Geosynthetic Cementitious Composite Mat





*Site during ground preparation*



*Deployment of CC on second day of installation*



*Joining CC overlaps using screws*



*Termination of CC against dry-stack wall*



*Termination of CC at outlet headwall*



*CC termination within anchor trench*

Prior to CC installation, the embankment was built to a 1:1.75 slope of compacted gravel layers. The pond floor was similarly laid to required falls and compacted. CC was then drawn off the roll, cut to required lengths and carried into position by hand.

CC was laid transversely down the embankment and terminated at the crest of the longitudinal channel. Similarly, CC was laid transversely from the dry-stack wall to the opposite channel crest. This layup allowed for the accommodation of the splay in pond floor dimensions and the skewed angle between the embankment and abutting dry-stack wall. The channel running longitudinally down the length of the pond floor was lined with a single longitudinal strip, encapsulating the transverse layup terminations either side of it.

Where the material was laid transversely, layers were overlapped by 100mm and thermally bonded before being reinforced with 30mm stainless steel screws at 200mm intervals. An anchor trench, which was dug prior to installation, allowed for termination of CC edges on the back of the embankment face.

Terminations against the dry-stack wall and inlet and outlet headwalls were fixed using 75mm stainless steel sleeve anchors, and the edges of the material grouted at the transition between CC and the dry-stack or headwalls.

Following the installation, hydration was given using a flexible hose pipe and spray nozzle connected to an on-site water source. Hydration was given four times at 30-minute intervals to ensure complete saturation in the dry climatic conditions.



*Panoramic view of site following hydration of CC*



*Hydration of completed installation*

Installation was carried out with consultation provided by Sutherland Engineers. A total of 375m<sup>2</sup> of CC were installed by a team of six, in dry winter conditions for the region.

The project was a success and the client and contractor are suitably impressed as the material has recently withstood a 1:50 year rainfall event which resulted in significant regional flooding. The installation was also completed on time and within budget.